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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,845	03/04/2002	Julio A. Abusleme	108910-00057	4315

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10/25/2004

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EXAMINER

ZACHARIA, RAMSEY E

ART UNIT

1773

PAPER NUMBER

DATE MAILED: 10/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,845

Applicant(s)

ABUSLEME ET AL.

Examiner

Ramsey Zacharia

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-16 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

2. Claims 1-3, 6-9, and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abusleme et al. (EP 1,038,914 A1) in view of Stoeppelmann (U.S. Patent 5,869,157).

Abusleme et al. teach a multilayer article that may be used as a fuel hose comprising a layer of a fluorinated polymer composition and a layer of hydrogenated polymer (paragraph 0022). Suitable hydrogenated polymers include thermoplastic polymers, such as polyamides (paragraph 0023). The fluorinated polymer composition comprises a copolymer of ethylene with tetrafluoroethylene and/or chlorotrifluoroethylene modified with an acrylic monomer, such as n-butylacrylate, that reads on the monomer of formula (a) in instant claim 1 (paragraphs 0009 and 0011). The copolymer comprises 10-70 mole% ethylene, 30-90 mole% tetrafluoroethylene and/or chlorotrifluoroethylene, and 0.1-30 mole% of acrylic monomer (paragraph 0010).

Regarding claim 9, the tube of Abusleme et al. is taken to be in the form of sheath-core fibers since it has inner (i.e. core) and outer (i.e. sheath) layers.

Abusleme et al. do not teach the presence of a layer comprising diamines and a polyamide having an amount of -NH₂ end groups in the range of 40-300 µeq/g. However, Abusleme et al. do teach a tube comprising a layer of a fluoropolymer and a layer of polyamide.

Stoeppelmann is directed to an adhesion promoter that bonds fluoropolymers to polyamides for use in multilayer tubes (column 2, lines 33-41). In one embodiment the adhesion promoter comprises a polyamide having an -NH_2 end group concentration of $50 \mu\text{eq/g}$ and a diamine, such as decyldiamine or dodecyldiamine (column 4, lines 1-14). In an alternative embodiment, the adhesion promoter comprises the diamine and a polyamide having an equal amount of -NH_2 and -COOH end groups (column 4, lines 20-26). The amount of -NH_2 groups in this alternative embodiment should be about $35 \mu\text{eq/g}$ (total number of end groups = -NH_2 end groups + -COOH end groups = $20 \mu\text{eq/g} + 50 \mu\text{eq/g} = 70 \mu\text{eq/g}$; if the polymer has an equal amount of -NH_2 and -COOH end groups it should have $35 \mu\text{eq/g}$ of each). The diamine is present in an amount of 0.25-2 wt% (column 4, lines 12-14).

One of ordinary skill in the art would be motivated to use the adhesion promoter of Stoeppelmann in the article of Abusleme et al. to tightly adhere the fluoropolymer and polyamide layers together.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abusleme et al. (EP 1,038,914 A1) in view of Stoeppelmann (U.S. Patent 5,869,157) as applied to claim 1 above, and further in view of Krause et al. (U.S. Patent 5,958,532).

Abusleme et al. taken in view of Stoeppelmann teach all the limitations of claim 10, as outlined above, except for the present of an inner layer that is made conductive by the incorporation of graphite and/or carbon black.

Krause et al. is directed to a fluoropolymer hose that may be used in a fuel line (column 1, lines 15-17). The hose comprises two fluoropolymers layers (column 2, lines 23-29). The

inner fluoropolymer layer has electrostatic discharge resistance, allowing electrostatic charge generated during the flowing of fuel to be carried to the ground (column 3, lines 52-63). The most preferred fluoropolymer for the inner fluoropolymer layer is ETFE sold under the Tefzel® trademark (column 3, line 64-column 4, line 20). Tefzel® ETFE fluoropolymers are composed of about 40-70 % ethylene and 30-60% tetrafluoroethylene.

One of ordinary skill in the art would be motivated to add an inner fluoropolymer layer of ETFE having electrostatic discharge resistance to the fuel hose of Abusleme et al. to yield a safer product by allowing electrostatic charge generated during use to be carried to the ground.

Response to Arguments

4. Applicant's arguments filed 11 August 2004 have been fully considered but they are not persuasive.

The applicants argue that Stoeppelmann requires a polyamide with excess amine groups admixed with a diamine which adheres to a fluoropolymer directly after coextrusion as opposed to the instant invention which requires excess amine groups and no diamine or a balance of amine and acid end groups and a diamine. It is further argues that Stoeppelmann teaches away from using the polyamide of instant claim 16 because Stoeppelmann teaches a polyamide having balanced end groups will not adequately adhere without supplemental treatments after coextrusion.

This is not persuasive for the following reasons. First, the composition of layer B) in claim 1 is not limited to only a polyamide having amine end groups in the range of 40-300 µeq/g. Rather, the composition of this layer is expressed using open language, thus permitting the

addition of any other material including diamines. That diamines are not required by the claim is not the same as being forbidden by the claim. Second, Stoeppelmann does not teach away from using polyamides having balanced end groups. Rather, Stoeppelmann explicitly teaches that such polyamides may be used provided that the resulting laminate is annealed at 100-130 °C or stored for several days at room temperature.

The applicant argues that added diamines are not an essential feature when using a polyamide having excess amine end groups as opposed to the teachings of Stoeppelmann which show that using polyamide having excess amine end groups without diamines results in no adhesion.

This is not persuasive because the composition of layer B) in claim 1 is open to the addition of any other material, including diamines.

The applicant further argues that Abusleme et al. show that their fluoropolymer does not adhere to a polyamide without a crosslinking agent and therefore teaches away from a composite of layer consisting of polyamide and a layer consisting of the fluoropolymer without a crosslinking agent.

This is not persuasive because the limitations presented in the argument are not reflected in the claims as written. In the instant claims, the compositions of both layers A) and B) are open to the inclusion of any other material. Note that while the transitional phrase "consisting essentially of" occupies a middle ground between closed claims that are written in a "consisting of" format and fully open claims that are drafted in a "comprising" format, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" is to be construed as equivalent to "comprising" and the applicants

have the burden of showing that the introduction of additional components would materially change the characteristics of applicant's invention. See MPEP § 2111.03.

Allowable Subject Matter

5. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The statement of reasons for the indication of allowable subject matter has been presented in the action mailed 14 August 2003.

Conclusion

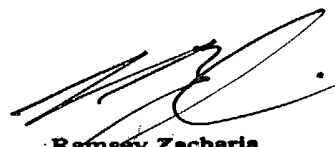
6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones, can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ramsey Zacharia
Primary Examiner
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